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Juvenile Delinquent Strengths Assessment: Evaluating the Gap between Research and Practice

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LOYOLA UNIVERSITY CHICAGO

JUVENILE DELINQUENT STRENGTHS ASSESSMENT:

EVALUATING THE GAP BETWEEN

RESEARCH AND PRACTICE

A DISSERTATION SUBMITTED TO

THE FACULTY OF THE GRADUATE SCHOOL

IN CANDIDACY FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

PROGRAM IN COUNSELING PSYCHOLOGY

BY

MICHAEL D. KNOLL

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ABSTRACT

Juvenile delinquency remains a significant problem in the United States, not only for society but also for adolescents who become involved in the criminal justice system. Psychologists working within juvenile justice settings are often tasked with providing valuable information to the courts in the service of this vulnerable population. Such evaluation practices have consistently focused on identifying risk factors for recidivism, while largely neglecting the importance of strengths factors in predicting of positive outcomes for juvenile delinquents. There is a clear need to bridge the gap between the strengths-based variables identified by the literature and the actual assessment practices commonly used with court-involved adolescents.

The present study sought to address the disparity between research and clinical practice by testing the use of a widely-utilized personality assessment tool, the Millon Adolescent Clinical Inventory (MACI), in predicting probation completion for juvenile delinquents. Results indicated that variables suggested by the literature as indicators of strengths as measured by the MACI were overall not useful predictors of probation completion. Further, traditional deficits-based statistical modelling using the MACI had more clinical utility for predicting probation completion, and juvenile delinquents tended to cluster around deficits variables that collectively predicted lower rates of completion. Suggestions for future research include development of a strengths-based assessment tool for use with this population and to seek empirical support for the reporting of strengths.

CHAPTER ONE

INTRODUCTION

It is clear that the number of adolescents involved with the criminal justice system is unacceptably high. According to the US Department of Justice Office of Juvenile Justice and Delinquency Programs (2013), there were 4,857 arrests for every 100,000 youths ages 10-17 in 2010. When examined further, the statistics indicate that males were more than twice as likely as females to be arrested in the same time period, with a similar disparity between Black youths and their White counterparts. The field of counseling psychology, with its demonstrated attention to issues of social justice, is appropriately positioned to bring awareness to the disproportionate incarceration of youth of color within our society and to seek solutions to this ongoing problem. This dissertation sought to illuminate how risk factors identified by a commonly-used assessment tool with this population might be considered as indicators of positive development through a preventative lens rather than markers for pathology.

The need for exploring how to better serve court-involved youth is further highlighted by examining additional disparities within crime rates and the juvenile justice system itself. For instance, group differences in delinquent behaviors are even more profound when observing more serious and violent crime types. For instance, while homicide was the second leading cause of death among 15-24 year-olds in 2007 on a national level (U.S. Department of Health and Human Services, 2011), homicide was

recently cited as the leading cause of death for African American males ages 14-30 (Center for Disease Control, 2008; as cited in McGarrell et al., 2010). Although overall youth arrest rates have dropped in total by 24% since 1980 (OJJDP, 2013), total juvenile court caseloads have increased by 30% between 1985 and 2009.

These statistics indicate that even as national crime rates fall, there may be groups falling through the cracks that are neglected by both the criminal justice system itself and the literature focusing on crime prevention. Rather than reacting to crime in an exclusively punitive manner, it would to the benefit of society, as well as the offender population, to approach crime from a preventative standpoint by adopting a youth-focused early intervention perspective. The scope of the problem is tremendous, as a staggering 110,284 offenders under the age of 21 were incarcerated across 3,061 juvenile facilities in the US in 2000 (Sickmund, 2002). In economic terms, the societal cost of leaving high school to perpetrate delinquent acts (crime, drug use, or both) has been estimated at between 1.7 and 2.3 million dollars for one adolescent over his or her lifetime (Snyder & Sickmund, 1999).

While the focus of public and professional opinions on the important issue of juvenile justice and youth crime prevention have changed over time (and will no doubt continue to do so), consistent themes have emerged over the period represented in these statistics, as well as in the history of the juvenile justice system. Originally created in 1899 with the intent to provide needed rehabilitative services and advocacy for the vulnerable court-involved adolescent population, the juvenile justice system has its roots in seeking positive outcomes in the best interest of each child that it encounters (Steffen & Ackerman, 2010). Over time, however, efforts to reform the criminal justice system in

general saw more punitive standards of sentencing implemented with juvenile populations, with a consequence of these attempts being an increase in the number of adolescent cases tried in adult court. Granello and Hanna (2003) highlighted the negative consequences for juveniles adjudicated as adults and incarcerated in adult facilities, including an increased risk for physical and sexual abuse and an eightfold increase in suicide rate.

The toughening of standards for adjudicated juveniles took place within the context of a society that often fears and misunderstands the nature and frequency of adolescent crime. For instance, Grisso (as cited in Steffen & Ackerman, 2010, p. 166) notes that the majority of males in this general age group participate in some form of delinquent behavior during adolescence, and that such acts, if investigated, could likely result in some form of criminal charge. Further, this pattern of behavior does not continue for most individuals as they move into adulthood, and the majority of violent offenses are accounted for by a small minority of juvenile offenders. Those arrested for violent crimes typically do not perpetrate further acts of violence, and the majority of adolescents diagnosed with conduct disorder do not develop antisocial personality disorder in adulthood. In a comprehensive evaluation of the pervasive and systematic inequality that exists within the criminal justice system, Alexander (2010) highlighted the fact that although there are no racial differences in the participation rates in these types of behaviors, members of minority groups are far more likely to be found within the juvenile justice system than their White counterparts.

These findings challenge the idea that punishment of those who are caught is the only solution for the problems associated with juvenile delinquency, and call for a more

developmental, rehabilitative, and compassionate conceptualization of this vulnerable population. The inequality within the system also calls for a more holistic and contextualized understanding of how to address these issues. A large proportion of the ongoing discourse in the domain of juvenile justice thus revolves around the necessity for balance in a system that must address both the need for public safety and individual mental health treatment (Grisso, 2005). As the juvenile crime rate continues to drop, the pendulum may be swinging back towards a focus on the treatment of the individuals within the system.

This appears to be occurring at a time of overwhelming necessity. Much of the research on the needs of court-involved adolescents has revolved around identifying common psychiatric diagnoses and mental health concerns. In a summary of the literature on mental health in juvenile justice settings, Grisso (2005) notes that the prevalence rate of mental health disorders in this system is estimated to be between 60% and 70% for the categories of mood, anxiety, substance use, disruptive behavior, and thought disorder diagnostic categories, a rate approximately two to three times higher than the general US youth population. Practitioners working within these clinical settings must also often be prepared to address the chronic and overlapping nature of dual diagnoses within the correctional population.

In order to do so, several important issues must be considered. Namely, the juvenile justice system must increasingly view delinquency as related to mental health disorders for certain individuals while providing diversionary and emergency response programs where appropriate (Grisso, 2005). Rehabilitative efforts must therefore be considered as an extension of attempts to reduce recidivism on an individualized basis.

Although this is a complicated process, it begins with accurately identifying the mental health needs of adolescents as they enter and move within the juvenile justice system. Clinicians can therefore assist in determining appropriate treatment and placement for adjudicated adolescents by utilizing assessment procedures designed to identify risk and protective factors within this population. More specifically, proper assessment of this population is necessary to understand both the strengths and weaknesses of the individual offender and provide useful treatment recommendations to target recidivism.

Assessment of Court-Involved Adolescents

Not surprisingly, the literature on identifying predictors of future behavior and treatment success within the population of court-involved adolescents has traditionally focused on negative variables. In describing the hypothetical ideal assessment process for adolescents entering the juvenile justice system, Grisso (2005) states that such individuals “would receive an extensive interview by a psychiatrist or clinical psychologist, several psychological tests to describe their personalities and diagnose their mental disorders, a detailed assessment of their risk of aggression and suicide, and an analysis of problem areas in their everyday lives (pg. 12).” Noticeably absent from this otherwise comprehensive and ambitious vision is the determination of strengths and factors for resilience, which might provide incremental clinical utility if examined.

For example, in a comprehensive examination of risk factors for incarcerated adolescents, Mulder, Brand, Bullens, and van Marle (2011) found that past criminal behavior, conduct disorder, family factors, criminal peer involvement, and poor treatment response were predictive of recidivism, with additional variables related specifically to committing future acts of violence. The domain of risk assessment is a worthwhile and

important endeavor, as it aids clinicians in maintaining public safety. However, it may also run the risk of pathologizing the adolescent, with tremendous potential for false positives and the irreversible harmful consequences that accompany them.

Strengths and Resilience Factors

In general, strengths-based assessment of court-involved youth has remained an underdeveloped area of research. Prior to considering the variables commonly associated with positive outcomes within this population, it is important to specify which youth fall under this domain of the literature, particularly with regard to evaluating outcomes for this group. The notion of risk as it pertains to adolescent development should therefore be considered through the lens of prevention conceptualization. Prevention is often categorized into three levels, based upon risk and identified needs for services in a model put forth by Caplan (Vera & Polanin, 2013). Primary prevention, which is applied broadly to reduce the frequency of new incidence of a disorder or problem, applies to those strategies implemented with the goal of increasing the prevalence of or bolstering existing factors that protect against delinquency for all adolescents. Secondary prevention techniques, or those interventions targeting a specific population due to a higher risk for development of a disorder or problem, would apply to strategies focused on reducing delinquency for adolescents with a high-risk for these behaviors. Tertiary prevention can be thought of as relapse prevention, aimed at reducing the long-term effects or recurrence of an already existing problem or disorder.

Adolescents who have been charged with a crime and are involved with court services clearly fall within the scope of tertiary prevention strategies, as they have already been observed to exhibit the maladaptive behaviors indicative of further problems (i.e.

recidivism and/or dangerous behavior). Although many issues associated with this population could have been assessed and/or addressed with primary or secondary preventative strategies, it often falls under the purview of the juvenile justice system to provide necessary services long after the need for treatment has been established. It is therefore important to remain cognizant of the high-risk nature of this population as a unique group within the prevention literature, as well as the relevance of research conducted on this population at varying points of contact with the juvenile justice system.

Nevertheless, the literature in the court-involved domain of at-risk adolescent development indicates several identified protective and resilience factors worthy of continued examination as they relate to tertiary prevention strategies. For instance, various sources of social support have been connected to positive outcomes in this population. Johnson et al. (2011) found that greater amounts of familial support, particularly from siblings and extended family members, as well as greater satisfaction with perceived support were predictive of lower rates of depression for incarcerated adolescents. In an examination of the coping and transition process for incarcerated male juvenile offenders, Shulman and Cauffman (2011) found social support seeking to be linked to lower levels of externalizing psychological adjustment symptoms as well as a more rapid decline in internalizing symptoms.

Similarly, it has been found that the frequency of parental visits during the first two months of incarceration are associated with a faster reduction in symptoms of depression for adolescent male offenders in the adjustment phase of their incarceration (Monahan, Goldweber, & Cauffman, 2011). Further, parental support appears to be associated with reduced antisocial behaviors, even after controlling for factors such as

impulse control (Jones, Cauffman, & Piquero, 2007). Higher levels of parental warmth have also been connected to reduced delinquency over the long term in at-risk male adolescents (Church et al., 2012). Clearly, sources of social support within the family of the offender can have a buffering and protective effect against negative psychological and behavioral outcomes for this population.

While familial social support has been established as a protective factor for at-risk and court-involved adolescents, less research exists regarding the benefits of peer relationships in this population. Much of this focus area on social support has centered instead on how negative peer affiliations are connected to juvenile delinquency and have mostly been conducted in the general at-risk youth population rather than specifically with the court-involved. For instance, Henneberger and colleagues (2013) note that there is a considerable amount of support for the notion that the delinquency levels of friends and acquaintances are associated with higher rates of youth violence and crime in general. They also found that perceived popularity was connected to higher levels of delinquency in the presence of low parental monitoring, highlighting the dynamic interplay between multiple social support-related variables.

Disinterest in peer relationships has also been implicated as a risk factor for delinquency, as disconnected adolescents have been found to report higher levels of physical aggression and property-related offenses than their more socially interested peers (Houghton, Carroll, Tan, & Hopkins, 2008). However, it has been demonstrated that motivation for joining a peer group may be connected to delinquent behaviors. Here, joining a group in order to gain a sense of belonging has been found to have a weaker relationship with delinquency than does joining for more instrumental purposes

(Lachman, Roman, & Cahill, 2013). Thus, it appears as though youth who seek peer social support for more affiliation and intrinsic reasons tend to be less likely to engage in delinquent behaviors.

Positive self-evaluation has also been shown to be related to desirable outcomes in the juvenile delinquent population. For instance, Church and colleagues (2012) found an association between higher levels of self-worth and reduced delinquency in at-risk males over a longitudinal study. Low self-esteem also appears to be associated with delinquency in at-risk adolescents (Barry, Grafeman, Adler, & Pickard, 2007), although the role of narcissism as it relates to self-esteem in delinquent and violent individuals remains somewhat unclear (Ostrowsky, 2009). Self-efficacy may also relate to positive future orientation in this population, as delinquent adolescents have been found to set fewer and less challenging goals and have lower efficacy in academic and self-regulation domains than do their non-delinquent peers (Carroll, Gordon, Haynes, & Houghton, 2013). There also appears to be evidence of the interrelationships between some of these personal and social variables. For instance, Tangeman and Hall (2011) found that self-efficacy beliefs were connected with higher levels of both family and peer social support in male juvenile offenders.

Issues of identity formation and development in court-involved adolescents have also yet to be fully explored by the literature. However, research indicates that contact with the criminal justice system itself may play a role in perpetuating delinquent behavior. Wiley, Slocum, and Esbensen (2013) found that adolescents who report higher levels of police contact and arrests also have higher rates of delinquency in the future, and that this may be related to the formation of an identity around deviance and fostering

relationships with deviant peers. It has also been found that over the course of identity development through adolescence, youth at high risk for externalizing problem behaviors tended to have a less structured sense of identity with lower levels of commitment than their low-risk peers (Crocetti, Klimstra, Hale, Koot, & Meeus, 2013). Intuitively, issues related to identity cohesion play a role in participation in delinquent behaviors for at-risk youth, but further research is necessary in order to establish this link.

The literature has therefore identified several crucial factors for resilience and positive outcomes within the court-involved adolescent population. However, there appears to be a disconnect between this base of literature and the assessment procedures utilized in applied settings. Specifically, the objective assessment tools widely available were primarily designed to identify individual deficits rather than strengths. At the same time, the scales used for research purposes to identify these important resilience factors are rarely used in clinical settings. Clearly, there is a need to bridge this gap in order to better serve both communities and individuals of need through strengths-based assessment within the context of the juvenile justice system. Addressing this issue could lead to better sentencing requirements, more specific and useful treatment goals and interventions, and more holistic rehabilitation for offenders. Understanding how strengths can be assessed utilizing existing and widely-used measures and connected with positive outcomes might therefore ultimately lead to reduced recidivism rates within the court-involved adolescent population.

The Millon Adolescent Clinical Inventory and Strengths Assessment

There are several comprehensive assessment instruments available to clinicians working with court-involved adolescents. The Millon Adolescent Clinical Inventory

(MACI) is one of the most commonly used and researched personality-based tools for use with this population (Baum, Archer, Forbey, & Handel, 2009). In a survey of forensic psychologists who conduct juvenile competence to stand trial evaluations, the MACI was identified as the second-most named objective measure of personality utilized for these purposes (Ryba, Cooper, & Zapf, 2003). Reasons for the preference of the MACI over other available measures include its relatively short administration time and the broad range of clinically-useful information provided by the resulting profile, specifically within the context of the juvenile justice system (Salekin, Leistico, Schrum, & Mullins, 2005). While the inventory does not provide diagnoses based on the results, it was designed to be consistent with the child disorders of the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (American Psychiatric Association, 1994).

The profile provided by the MACI carries the potential for clinically-relevant insight into psychological problems related to general psychopathology, interpersonal/familial issues, and self-concept difficulties experienced by the adolescent (Salekin et al., 2005). The MACI has been consistently used by professionals in juvenile justice settings as a tool for identifying risk factors and underlying psychological difficulties in youth offender populations for a variety of purposes and contexts. Research on the use of the MACI within these settings has typically followed this path, with a focus on examining its usefulness in categorizing offenders based on future behavior and/or criminal history and predicting future delinquent/problematic behavior and recidivism.

While the MACI has previously proven itself useful in examining which Personality Patterns, Expressed Concerns, and Clinical Syndromes are presently

impacting client functioning based on elevations (base rate scores above 74) along the 27 included subscales in these domains (Salekin et al., 2005), little attention is often paid to the scales on which court-involved adolescents may not show elevations. There is great potential for these lower points on personality profiles to show clinical utility, as they may be indicative of areas of strength on which to build treatment considerations. They may also be able to demonstrate some ability to predict success in diversionary programs for court-involved adolescents, which would be important information for court services to consider during the sentencing process.

Taken within the context of the literature on strengths and resilience of at-risk adolescents, several MACI variables align with those identified as potential predictors of positive outcomes within this population. As previously stated, researchers have identified several variables related to social support that have been shown to relate to reduced delinquency. Considering that the MACI includes scales measuring the presence of concern with family conflict, peer connectedness, and general social sensitivity, these variables (scale scores of Family Conflict, Peer Insecurity, Social Insensitivity) logically merit further investigation as positive factors for those assessed with this measurement tool.

Similarly, the research has examined several variables related to self-concept and identity, making the Self-Devaluation scale on the MACI a natural fit for further exploration as an indicator of resilience within the court-involved adolescent population. Further, previous research has shown that issues related to identity may be related to future delinquency, but this link requires further study in order to more firmly establish this connection. Thus, Identity Diffusion, Self-Devaluation, Peer Insecurity, Social

Insensitivity, and Family Discord warranted further investigation for the purpose of predicting success for court-involved adolescents and naturally fit within the existing literature on protective factors for this population.

Outcomes for Court-Involved Adolescents

While the notion of treatment success may appear to be relatively straightforward (i.e. simply not committing a future offense), it is important to consider the nuanced nature of positive outcomes for court-involved adolescents. As previously stated, adolescents already found to have committed a crime would benefit from tertiary prevention strategies targeting delinquent behavior so as to minimize the likelihood of reoffending. However, merely focusing on reduced recidivism as an outcome of interest for study with this population may limit our understanding of how youth involved with the juvenile justice system might be better served through strengths assessment.

Instead, exploring how adolescents respond to and find success in probationary programs would have potential clinical utility for clinicians working with youth on the fringe of deeper involvement with the criminal justice system. The ability of court-involved youth to complete the terms of their probation and minimize violations thereof (i.e. failed drug tests, missing curfew) has been commonly utilized as an indicator of success for this population (Leiber & Peck, 2013). However, research has yet to demonstrate positive factors for attaining such results in these treatment and correctional strategies. Further exploration of how resilience factors connect with positive outcomes in such diversionary programs would be invaluable information for clinicians and court services alike.

There are additional considerations for court-involved adolescents that warranted additional exploration in terms of demographic and categorization variables as well. Crime type (i.e. violent, property, or drug offense) has been utilized by researchers to categorize offenders and search for intragroup differences, as the type of offense is likely to bear relevance to sentencing, future behavior, and treatment. This type of demographic coding has also been useful in making specific treatment and programming recommendations for juvenile delinquents (Gottfredson & Soule, 2005). Since different types of offenders may have different needs, it would be useful for clinicians to understand how crime type relates to both resilience factors and successful completion of probationary requirements.

As previously mentioned, there are well-documented racial disparities represented within the criminal justice system that also apply to the incarcerated and delinquent juvenile population. However, the literature has yet to identify or examine strengths-based or outcome differences based on demographic variables such as race. Finding such differences might lead to better tailored interventions based on culture of origin, while no differences might inform more general and primary youth crime prevention strategies.

Goals of Current Study and Research Hypotheses

The present study therefore sought to examine and bridge the gap in the literature between that which has traditionally focused on resilience factors in at-risk youth and the research on the application of traditionally deficit-based risk assessment instruments to court-involved adolescents. There are many questions that have yet to be answered regarding which factors contribute to positive outcomes for delinquent youth, and it remains to be seen the degree to which Expressed Concern variables from the MACI can

be used to predict future success for those involved with the juvenile justice system.

Results from the MACI from an archival sample of adolescent offenders sentenced to probation, along with demographic data (including crime type), with the binary outcome variable of probation completion, were analyzed so as to address the following exploratory research hypotheses:

Hypothesis 1. Significant differences in the five potential MACI resiliency variables (Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord) exist between those participants who Complete Probation and those who do not.

Hypothesis 2. A significant amount of variance in Probation Completion can be accounted for by the MACI Expressed Concerns of Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord beyond that which is accounted for by covariates.

CHAPTER TWO

REVIEW OF LITERATURE

Millon's Theory of Personality

In order to appreciate the interpretation of scales contained in the Millon Adolescent Clinical Inventory as strengths indicators, it is important to consider the theory on which the MACI is based. According to Davis (1999), Theodore Millon was especially diligent in creating a cohesive and functional theory that would not only explain human personality, but could also classify psychopathology, create grounded instruments, and target specific problems with interventions. In terms of theory, Millon's conceptualization of human personality development was originally created as a biosocial learning model, in which personality styles emerge in response to environmental conditions such as parenting style, interactions with others, and training.

Under adverse conditions, however, an individual may develop maladaptive strategies for need fulfillment. Further, Millon would later incorporate evolutionary theory into this conceptualization by postulating that this type of ineffective adaptation does not simply occur at an individual level, but rather is reflective of an inability of the species itself to adequately navigate its environment (Davis, 1999). This theory is therefore quite instructive for the current study, as it places the responsibility of maladaptive behaviors and personality styles not only on the individual, but also on the social conditions in which they pursue the fulfillment of their needs.

Based on Millon's theoretical understanding of how human beings accommodate their needs within their social environment, five basic personality styles were developed: dependent, independent, ambivalent, discordant, and detached (Davis, 1999). The distinct personality prototypes included on the family of Millon inventories (including both adult and adolescent oriented tools) were then derived from a combination of these characteristic modes of relation to others. It is important to note that although the resulting categories share considerable overlap with DSM criteria, a characteristic that promotes the usefulness of the theory and its resulting assessment tools, they were originally designed by Millon primarily as descriptive rather than diagnostic categories. That is to say that while it may be easy to project a clinical diagnosis from the results of a Millon assessment, the clinician is urged to consider as much information as possible when doing so to maintain accuracy and proper use of the test, along with the theory on which it was based.

However, Millon firmly believed that the clusters of personality types identified by his theory could be indicative of clinical syndromes and could therefore be measured with the aid of appropriate assessment instrumentation (Davis, 1999). Analogous to how various parts of the body work together in a complicated system, Millon theorized that personality was best represented by the consideration of the dynamic interplay of its various functions and structures. A more effective assessment of personality would therefore also effectively measure several important features and behaviors that commonly correspond to his identified personality patterns. These domains relate to functional psychological characteristics, such as cognitive style and emotion regulation, as well as deeper structural concepts like self-image. The theory was consequently

designed to account for both static and dynamic components of personality, developed across the lifespan, that are measurable, and can be targeted therapeutically (Davis, 1999).

Millon's measurement instruments are unique from many similar tools (i.e. MMPI, PAI) in that they are representative of and developed from a comprehensive theory of personality rather than from a blind criterion-keying approach (Meagher, Grossman, & Millon, 2004). The Millon Adolescent Personality Inventory (MAPI), and later its replacement – the Millon Adolescent Clinical Inventory (MACI) – were constructed specifically for the adolescent population. Designed to complement its adult-normed precursors (the Millon Clinical Multiaxial Inventories), the MACI was not only tailored to the vocabulary and reading level of adolescent populations, but also to represent specific and developmentally-appropriate needs of this group (Millon & Davis, 1993).

Specifically, the Expressed Concern scales were included in the MACI in order to provide clinicians with information concerning troubling aspects of functioning adjunct to personality patterns. These scales “address the phenomenological attitudes that teenagers have regarding significant developmental problems (Millon & Davis, 1993, pg. 570),” such as family problems, identity confusion, and peer relations. It is also worth noting that the MACI is more finely tuned for use with clinical populations than was its MAPI predecessor, as it was normed on a wider range of treatment populations (including inpatient, residential, and outpatient groups).

Particularly important for the purposes of the present study, the evolution of the MAPI to the MACI witnessed a shift from positive labeling of the Expressed Concern

scales to the application of terms with a negative connotation. For example, Scale G shifted from a measure of Family Rapport to Family Discord, and Scale E was changed from Peer Security to Peer Insecurity. The shift in language away from positively-labeled variables was undertaken as a means to reflect the clinical focus on maladjustment of the revised measure (Meagher, Grossman, & Millon, 2004). This dramatic change also means that the MACI contains approximately 70% new items from its predecessor, in part to account for this shift in language. Although the subtle change from strengths-based verbiage to more negatively-focused items and scales may more accurately reflect how elevations on the Expressed Concern scales are utilized by clinicians, it unfortunately made them more difficult to intuitively interpret when they are indicative of strengths without additional direction. To date, there is a gap in the literature in providing guidance to clinicians on how to view these scales as potential positive features for their clients.

Validation of the MACI

Since the MACI was developed as a reflection of a specific theory of personality, it is particularly important to consider efforts made to gather evidence of the validity its use with a broad range of adolescents, as a failure to do so might cast doubt to the applicability of the variables of interest to the present study. The initial pool of items for the MACI was generated from a review of literature and other similar psychological tests, and written to represent the constructs that they targeted (Meagher, Grossman, & Millon, 2004). This allowed for the items to closely match the theory on which the tool is based and be represented of the personality patterns developed by Millon.

Next, the validity of the internal structure of the test was demonstrated by testing the interrelationships between potential items and theoretical scales. Since the subscales of the test were based on a matrix of personality traits and thus a relatively high degree of overlap between scales was anticipated, factor analysis was not used to find “pure” personality traits. However, items were retained that demonstrated their highest correlation with the scale that they were designed to represent. Cross-loading on scales was allowed because of the aforementioned overlap in constructs between personality patterns, but it also aided in keeping the tool as brief as possible (Meagher, Grossman, & Millon, 2004).

The MACI and Risk Factors

As previously mentioned, research utilizing the MACI as a predictive and categorical indicator have traditionally focused on identifying risk factors for future problematic behavior and/or recidivism. For example, Caggiano (2000) demonstrated the effectiveness of the MACI in distinguishing youth demonstrating violence towards correctional staff members from those inmates who do not. Glaser et al. (2005) found that four MACI variables, including Self-Devaluation, were able to correctly classify 71.1% of participant adolescent male offenders as somatizing versus non-somatizing patients. Salekin et al. (2003) created an auxiliary scale from MACI items that was highly related to the Psychopathy Checklist-Revised and was able to predict recidivism in adolescent offenders. Oxnam and Vess (2006) effectively utilized MACI profiles to examine and categorize adolescent male offenders based on clusters of variables and crime type, and demonstrated self-devaluation to be an important contributing variable to the classification process.

Similarly, Stefurak, Calhoun, and Glaser (2004) utilized clustering to compare MACI profiles of adolescent male detainees so as to provide considerations beyond those based purely on antisocial variables. Further, this study did not find an interaction between cluster membership and the demographic variables of race or offense history. Taylor, Kemper, and Kistner (2007) found that clustering male juvenile offenders based on personality and clinical typology developed from MACI profiles was clinically useful in predicting negative outcomes such as institutional rule violations. Taylor et al. (2006) also clustered adolescent male offenders using the MACI Expressed Concerns variables and found Social Insensitivity, Self-Devaluation, Peer Insecurity, and Identity Diffusion among the most powerful scales in determining subgroup typologies (Baum et al., 2009). Collectively, these studies demonstrate the MACI's utility in categorizing adolescent male offenders based on critically identified variables therein, as well as utilizing Expressed Concern scales as predictors of future behavior and functioning.

Expressed Concern Scales as Strengths Indicators

Although the MACI includes scales across several domains of interest and allow for a broad representation of functioning based on his theory, the Expressed Concerns scales have seldom been utilized in the literature as indicators of strengths. This is particularly curious given that the MACI's predecessor, the MAPI, originally measure the presence of positively-worded expressed concerns which were later converted to deficit-based indicators (Meagher, Grossman, & Millon, 2004). However, examining the features, intended use, and previous research of five specific Expressed Concern variables indicates that they have tremendous potential as predictors of outcomes and identified as risk factors in juvenile delinquents.

Identity Diffusion. The Identity Diffusion scale on the MACI contains 32 items and measures the degree to which an adolescent is confused about who they are and what their personal goals might be. Millon (1993) theorized that a major task of adolescence is the development of a coherent sense of self in order to move from childhood attachments to stable independence. Some adolescents find this transition more difficult than others, for a variety of reasons such as negative influences from parents, role models, or peers. These psychosocial factors can prevent movement toward healthy identity development, and the adolescent may remain confused about where they are going in life and how to get there. The resulting discomfort from this incomplete identity formation can theoretically create a myriad of problems for developing social affiliation and vocational interest.

Millon's (1993) conceptualization of identity development as a core objective of adolescence that requires resolution in order to arrive at normative adult functioning is founded on several theoretical predecessors. Any suggestion of the importance of identity to adolescent functioning must begin with Erikson's psychosocial developmental stage model. Here, Erikson put forth that adolescents are tasked with resolving the crisis that exists between identity and role confusion. During this stage, individuals ideally develop a sense of self-confidence that others see them as they see themselves, and they begin to be able to develop personal goals and values. According to Erikson, if not completed successfully the adolescent may be confused about their role in society and be ineffective at setting and pursuing important life task goals related to education and/or vocation (Sharf, 2008).

Further, Marcia (1980) operationalized these tasks by stipulating that, to varying degrees, adolescents ideally engage in search activities leading to commitment across a number of identity domains, such as religion, politics, ethnicity, and occupation. According to this theory, adolescents who have yet to search or commit to a particular identity are thought to be in a state of identity diffusion, the first of four statuses in this model (Davis-Gage, 2009). The integration of this notion of identity development to the MACI (Millon, 1993) is significant in that it suggests that the identity development process requires some amount of examination and integration of values into a cohesive sense of self. It further suggests that measurement of identity development in adolescence is potentially useful as an indicator of present psychological functioning.

In an examination of the degree to which the tasks associated with this stage of psychosocial development are connected to various psychological and behavioral symptoms, Kidwell and Dunham (1995) compared results of scores obtained on the MMPI and levels of identity exploration. It was found that adolescents who were more engaged in exploration activities, indicating that they had lower levels of commitment to identity roles across a number of domains (i.e. occupation, politics, friendships), were more likely to demonstrate higher levels of self-doubt, confusion, disturbed thinking, impulsivity, conflicts with parents/authority figures, and physical symptoms.

Not surprisingly, Identity Diffusion has also been linked to negative psychological well-being for adolescents, as higher scores on this MACI scale have been connected to higher scores on measures of depression ($r = .60$), hopelessness ($r = .63$), and anxiety ($r = .42$) (Millon, 1993). The development of this scale of the MACI was based on the notion that lower levels of Identity Diffusion are indicative of more positive

functioning for adolescents. Overall, this line of research demonstrates that identity development indeed appears to play a role in adolescent functioning, but further evidence is needed to draw this conclusion for juvenile delinquents and connect it to desirable outcomes for this population.

Self-Devaluation. Millon (1993) also noted that adolescence is a time of intense self-scrutiny, wherein the individual begins to compare themselves against the standards and ideals that they observe beyond their immediate family. When there is a difference between the perceived self and who they would like to be, the adolescent may experience negative emotions connected to the dissatisfaction they have with who they are. Millon (1993) further notes that this perception is impacted by “the presence of real deficits that make the attainment of the ideal impossible, and the intensity with which the person critically evaluates him- or herself (pg. 13).” It is important to note that this construct can be particularly sensitive to issues of class and privilege, as those from traditionally disadvantaged groups may perceive themselves to have fewer opportunities to actualize their ideal. The Self-Devaluation scale was therefore designed as a measure of the degree to which the adolescent is dissatisfied with their self-image and has low self-esteem.

Self-Devaluation has also been found to be negatively correlated to self-esteem ($r = -.68$) (Pinto & Grilo, 2004). Higher scores on this scale have also been connected to higher scores on measures of depression ($r = .59$), hopelessness ($r = .57$), and anxiety ($r = .40$) (Millon, 1993). These findings suggest that higher scores obtained by the Self-Devaluation scale of the MACI are associated with negative mental health outcomes in adolescents. If the inverse is true, scores on this scale could possibly be interpreted as indicative of strengths related to more positive outcomes for juvenile delinquents.

Peer Insecurity. Millon (1993) also recognized the importance of peer affiliation in normative adolescent development. Here, children continue to differentiate themselves from their immediate family by accepting support from non-family members, a significant source of influence over social behavior. This often follows a course of development wherein the adolescent becomes increasingly confident in their ability to make choices in their peer group involvement and ultimately move towards greater intimacy in friendships. However, those adolescents who are unable to develop positive self-esteem come to anticipate rejection from others. This consequently leads them to remain disengaged socially, which in turn reinforces their low self-confidence.

Membership in a peer group for these individuals then may become conditioned upon absolute allegiance or the acceptance of values different from their own (i.e. joining a gang) in order to obtain some of the benefits of social support. The Peer Insecurity scale therefore was designed to measure “the adolescent’s degree of success in finding a comfortable, rewarding position in his or her peer group (Millon, 1993, pg. 15).” Scores on this scale have been found to be somewhat correlated with measures of interpersonal distrust ($r = .16$) (Millon, 1993), as well as negatively correlated with self-esteem ($r = -.27$) (Pinto & Grilo, 2004).

Social Insensitivity. Millon (1993) also acknowledged the importance of developing and understanding of appropriate standards for behavior, and also the family’s role in doing so. Some individuals, however, fail to adequately internalize pro-social attitudes and instead reject socially-accepted beliefs about standards of interpersonal behavior. The Social Insensitivity scale was developed to address the degree to which the adolescent deviates from the norm in terms of their attunement to the needs of others.

Further, this attitude must be differentiated from overt anger, hostility, or aggression towards others, and is instead characterized as a “casual indifference to the presence of discomfort and pain in others (Millon, 1993, pg. 15).”

Although this type of apathy may manifest as mere social isolation or withdrawal in some (although this is certainly not without consequence), others who show elevations on this scale may participate in the types of antisocial behaviors that create many problems for the adolescent themselves and for society in general. Simply put, individuals who score high on this scale could therefore be considered to be unconcerned about the welfare of others and more concerned with their own personal gain (Salekin et al., 2005). Scores on the Social Insensitivity scale have been shown to be positively correlated with a measure of aggressive behavior and delinquency ($r = .32$) (Millon, 1993).

Family Discord. As recognized in his description of the Social Insensitivity scale, Millon (1993) recognized the importance of the adolescent’s family in healthy development. Since the family and home environment often reflect the ways in which adolescents relate to others and their world in general, consideration of the adolescent’s perception of their relationship to their family of origin is crucial to understanding the individual’s ability to relate to and rely upon others. The Family Discord scale was therefore developed to assess the degree to which the adolescent perceives their family as tense and conflictual, that they have little support from family members, and feel as though they are detached from their parents (Salekin et al., 2005). Scores on this scale have shown to be positively correlated with measures of depression ($r = .36$),

hopelessness ($r = .42$), and anxiety ($r = .27$) (Millon, 1993), indicating the important role that familial support can play in psychological well-being for court-involved adolescents.

These variables therefore represent appropriate measures of the constructs previously identified in youth resilience literature. Further, together they cover the three categories of factors cited by Pollard, Hawkins, and Arthur (1999) as potential protective factors for this population: individual characteristics (Self-Devaluation, Identity Diffusion), social bonding (Peer Insecurity, Family Discord), and healthy beliefs and clear standards for behavior (Social Insensitivity). However, they require additional research in order to validate their use as indicators of strengths in the juvenile delinquent population, as well as their use as predictors of positive outcomes.

Relationship Between Risk and Resilience Factors

This research exists within a field that is often torn between identifying those factors which might indicate strengths for individuals and those that are suggestive of risk for future delinquent behaviors. However, Pollard, Hawkins, and Arthur (1999) argued that considering a combination of both types of factors is imperative for developing effective preventive interventions. Here, it was found that risk and prevention factors were moderately negatively correlated and that risk factors accounted for most of the variance in problematic outcomes. However, the authors also noted that protective factors appeared to buffer against the effects of higher levels of risk in their sample.

Jessor and colleagues (1995) found similar evidence that protective factors were less likely to be found in those involved with problem behaviors and that protection buffered against risk. Although the protective factors examined by this study included several variables related to attitude towards school and health, it also included factors in

the domains of interest for the present study, such as peer and adult relationships and attitude towards deviance. Further, the protective factors measured by this study collectively were found to predict change in problem behaviors over time. Overall, these results suggest that risk and protective factors may ultimately be intertwined and thus equally worthy of examination in the juvenile delinquent population.

Strengths-Based Preventive Interventions

Several programs have been developed around the notion that strengths-based and preventive interventions for juvenile justice-involved adolescents, each of which lends support to the notion of utilizing the identified MACI factors as indicators of success in similar settings in the future. For instance, Daly et al. (2013) summarized the literature on the prevention of Oppositional Defiant Disorder and Conduct Disorder in at-risk adolescents and found a number of factors that appear to play a role in the long-term success of treatment within this population. Many of the programs that have demonstrated empirical support for the treatment of these resistant categories of problematic behavior involve group-based skill building and family involvement.

In a similar review of empirical evidence of preventive intervention programs, Tarolla, Wagner, Rabinowitz, and Tubman (2002), identified family systems, parent and social skills training, and peer group counseling among those with the most support for widespread use with this population. Further, in noting the myriad of problems associated with counteracting the risks common to youth involved with the juvenile justice system, Murray and Belenko (2005) emphasized the dearth of protective factors available to this population. Solutions offered included community- and school-based programs aimed at building strengths for youth and their families in an effort to build the

supports and skills necessary for healthy development. Kumpfer, Whiteside, Greene, and Allen (2010) also found that a family-targeted intervention focusing on skill building within the system was effective at reducing aggression in at-risk youth. The confluence of research around these factors suggests that the availability/integration of family and the ability of youth to socially engage with peers may be therapeutic antecedents for effective interventions. If the juvenile justice system were able to identify delinquent adolescents who already demonstrate some proficiency in these domains of functioning relative to their peers, it follows that fewer adolescents could be needlessly incarcerated in favor of more compassionate sentencing.

The concept of strengths-based programs designed to take advantage of and boost the resources available to at-risk and/or delinquent adolescents is therefore not new, but the evidence exists to encourage its further exploration and application to avoid continuing involvement in the criminal justice system for this vulnerable population. Further, no matter the level of prevention – primary, secondary, or tertiary – the longer the developmental duration and breadth of their coverage are critical for success in delivering positive outcomes for the delinquent adolescent population (Mulvey, Arthur, & Reppucci, 1993). The evidence clearly indicates that considering strengths, in conjunction with risks, is a crucial practice for the development of effective preventive interventions. However, the criminal justice system could benefit greatly from direction on how to effectively identify the resilience factors within its offender population so as to appropriately divert individuals from incarceration.

Considerations for Juvenile Sex Offenders

The literature in this domain of research also makes several distinctions between subgroups within the offender population that are relevant to the present study. One subtype of juvenile offender that warrants unique consideration is that of adolescents convicted of sexually-based offenses. Just as adult sex offenders are often treated as a subgroup within the criminal justice system, so too are juveniles segregated in both the system and the research on resilience factors. Although this may be due in part to the fact that risk assessment is a cornerstone of sex offender treatment therefore providing a logical and pragmatic reason for the lack of empirical evidence of strengths in this group, a review of the literature lends support for the special consideration of these types of offenders in the present study.

For instance, Glowacz and Born (2013) examined MACI-based personality profiles of two types of juvenile sex offenders and non-sex offenders and found differences in the prevalence of several key traits. Child sexual abusers were found to have lower scores on risk factors such as substance-abuse proneness, impulsivity, and antisocial functioning than peer sex abusers and non-sex offenders. This is suggestive of the need for special considerations of this specific subtype of sex offender, and, as noted by the authors, provides support for the differential treatment of child sex abusers within clinical and forensic settings.

Differences have also been found within the juvenile sex offender population that support the notion that this group represents a subset of general delinquent adolescents with its own treatment considerations. In an examination of the differences in childhood trauma, alcohol use, and beliefs about masculinity as predictors of general delinquency

between subgroups of adolescent offenders, Brown and Burton (2010) also found support for distinguishing sexually offending youth from their peers. Here, it was discovered that all three predictors were more prevalent in sexual offenders who also committed acts of non-sexual violence. These results have profound treatment implications for the rehabilitation of juvenile sex offenders, and suggest that the needs of this population are specific enough that they warrant unique consideration within the research devoted to adolescent offender treatment.

CHAPTER THREE

METHODS

Participants

Due to the vulnerable nature of the court-involved adolescent population, an existing archival data set was accessed to reduce potential risks to confidentiality. Participants were adolescent males and females aged 13-18 charged with a variety of offenses within a county court system. The exclusion of females and sex offenders from the primary analyses was considered as female adolescents and sex offenders are both representative of specific groups within the juvenile justice system with potentially confounding effects on the analyses. However, as illustrated in the results section, group differences based on these variables were not found in the present sample. The county from which the sample was drawn, located near a major urban area in the Midwest, has racial/ethnic and socioeconomic representation similar to that of the United States in general and was therefore likely yield a sample that was generalizable to the population of juvenile delinquents within the US.

The sample was drawn from the records of a psychology department that conducts assessment services (in addition to treatment) as a part of a county court system for both prosecution and defense purposes. Records were included for all adolescents meeting the above stated inclusion criteria and who completed the Millon Adolescent Clinical Inventory as part of a court-ordered assessment battery over the time period of 2003-

2013. MACI profiles were not included for any adolescents who demonstrated an approach to testing which interfered with validity, such as unacceptably high levels of defensiveness, positive impression management, or malingering as assessed by computer scoring software. Additionally, adolescents were included who were sentenced to a probationary sentence so as to capture a group who would be targeted by tertiary prevention strategies from treatment recommendations made based on the results of assessment procedures. In order to protect confidentiality of the adolescents, identifying information was not collected and/or associated with testing data used in the analysis. Further, the proposed inclusion of these records for the purposes of this study was reviewed and approved by a county judge, and any resulting concerns on the part of court services regarding confidentiality were addressed prior to gaining access to the data.

Field (2009) provided several suggestions for sample size in order to increase power for regression analyses, which is useful given the exploratory nature of the present study. These estimates range from $15k$ to $50 + 8k$, where k = the number of predictors. With 5 predictors, the optimal sample size for this study was therefore determined to be 75 to 90 participants at a minimum. It was estimated that this study would have access to approximately 100 cases that meet all inclusion criteria (male, non-sex offender, probationary sentence) and took the MACI at the facilitating agency during the specified time period. However, given the exploratory nature of this study and the unknown anticipated effect sizes, data were collected from all records for adolescents who completed the MACI. This allowed for adjusting inclusion criteria such as including females and sex offenders in sample following the determination that group differences were not present during preliminary analyses.

Measures

Demographics. For the purposes of performing group comparisons and analysis of covariance, demographic data was gleaned from records available at the testing agency and approved for inclusion. These variables included racial/ethnic identification, age at time of testing, and crime type. Crime type was coded based on the charges associated with the offense(s) that precipitated testing into the categories of Property (i.e. Theft), Drug/Alcohol (Possession of Controlled Substance, Paraphernalia, Consumption of Alcohol by a Minor), Statute/Conduct (Violation of Curfew, Failure to Obey Police Order, Resisting Arrest), Weapon (Possession of Unlicensed Firearm, Unlawful Discharge of Firearm), Person (Battery, Assault), or Sex Crime (Criminal Sexual Battery). Although it was originally intended to categorize crime types based upon those used by the U.S. Office of Juvenile Justice and Delinquency Prevention, which include categories of Person, Property, Drugs, and Public Order referral offenses (OJJDP, 2014), it became readily apparent that crimes fell into additional natural categories upon gaining access to the data.

Probation completion and violations. As an indicator of successful outcomes for this population, court records were also accessed to determine the probation completion status of each offender. An offender was considered to have obtained this positive outcome if they completed the terms of their probation to the satisfaction of the court and thus graduated from supervised status. This information was obtained by accessing court records through the county probation office. In order to provide a deeper level of analysis on the influence of individual factors on rehabilitation while in such supervised programs, it was originally intended to also collect the number of probation

violations accrued by each participant. These types of incidents included events such as testing positive for drugs or alcohol, breaking curfew, failing to attend a meeting with a probation officer and/or court services, or committing a new crime while on probation. However, upon gaining access to records through the probation office, it was determined that this information was not reliably available for many records and if included would be highly dependent upon situational rather than participant factors (i.e. their assigned probation officer).

Millon Adolescent Clinical Inventory. As previously stated, the Millon Adolescent Clinical Inventory (MACI) is a widely utilized tool implemented for the assessment of juvenile offender functioning in the domains of personality, emotional, social, and psychological functioning (Baum et al., 2009). The MACI is a self-report, paper-and-pencil inventory (although a computer version is also available from the test publisher) that has been normed for appropriate use with adolescents ages 13-18 (Salekin et al., 2005). The test consists of 160 True-False items, requires a 6th grade reading level, can be completed by most adolescents in approximately 20 minutes, and was specifically designed for use within clinical, residential, and correctional settings (Millon, Millon, Davis, & Grossman, 2006).

Completed protocols can be scored with the aid of an electronic scoring program, which also provides several interpretive hypotheses to aid in clinical decision making. These hypotheses rely upon base rate scores, which are converted from the obtained raw scores on each subscale and indicate prevalence of each trait or disorder within the population and anchored to scores of 75 and 85. Many similar measures utilize T-scores and/or percentiles for interpretation, which assume that clinical issues and personality

patterns are distributed normally within the population, which is not likely always the case. The MACI's use of Base Rate scores instead allows the test to be more representative of reality since they are based on prevalence data (Meagher, Grossman, & Millon, 2004).

The MACI was constructed such that base rates of 85 to 115, corresponding to the highest 10% of adolescents, on a given subscale are representative of adolescents for whom the elevation represents the most prominent characteristic or concern (Fabry, Bertinetti, & Guzman-Cavazos, 2011). A base rate score of at least 75 to 84, representing the next 15% of adolescents, is indicative of adolescents for whom the trait of disorder is present. Scores between 35 and 74 represent the next 60% of the population, with the final 15% having scores below 35. In this way, the MACI provides clinicians not only with areas for possible concern and exploration with each individual client, but also their prevalence within the adolescent population.

Similar to other self-report objective measures of personality, the MACI provides several Modifying Indices designed to assess the interpretability of its findings. The MACI specifically includes 3 measures of validity, each attuned to a test taking approach which may unduly influence the results, such as social desirability, defensiveness, or exaggerating symptoms/problems. Similarly, a reliability indicator is provided to assess the degree to which attention or comprehension difficulties may have influenced responses (Salekin et al., 2005). If the profile is deemed interpretable based on the provided validity and reliability indicators, further insight can be gleaned by examining the additional 27 scales provided by the profile, spread across 3 domains. The MACI includes 7 Clinical Syndromes scales, 12 Personality Patterns scales, and 8 Expressed

Concerns scales (see Appendix for a list and description of MACI scales) that each address a broad range of potential areas of concern for the adolescent.

Overall, the MACI has demonstrated sufficient psychometric properties commensurate with its widespread use. Internal consistency estimates have ranged from .73 to .87 for the validity scales, from .74 to .90 for Personality Patterns scales, .75 to .89 for Clinical Syndromes scales, and .73 to .91 for the Expressed Concerns scales (Salekin et al., 2005). Test-retest reliability has been estimated at between .57 and .92 based on 3-7 day administration windows. The specific reliability information for the five Expressed Concern variables of interest are available in Table 1 (Meagher, Grossman, & Millon, 2004). The MACI has also demonstrated concurrent validity with other clinical assessment tools, such as a moderate positive correlation between the Depressive Affect Scale and the Beck Hopelessness Scale ($r = .51$), as well as predictive power (Pinto & Grilo, 2004).

| Expressed Concern | Cronbach's Alpha | Test-Retest |
|----------------------|------------------|-------------|
| Identity Diffusion | 0.76 | 0.77 |
| Self-Devaluation | 0.90 | 0.85 |
| Peer Insecurity | 0.77 | 0.57 |
| Social Insensitivity | 0.79 | 0.83 |
| Family Discord | 0.76 | 0.89 |

Table 1. Psychometric Properties of MACI Variables

The present study utilized the scales on the MACI which correspond with variables present in the literature that have been associated with positive outcomes for the juvenile delinquent population. Thus, scaled scores on the variables of Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord were extracted from each testing record for further analysis. As indicated by the

literature, these specific scales appropriately align with previous literature on the assessment of strengths in at-risk and court-involved youth and were therefore utilized in order to address the present research questions.

Data Analysis

Descriptive statistics. To answer the hypotheses advanced by a review of the literature, several data analytic techniques were used. Following data collection, data were cleaned and examined in an effort to maintain fidelity to the inclusion criteria of the study. This process included reviewing the scoring report for each case, with a clinically invalid test protocol resulting in exclusion from further analysis, as this was indicative of an individual who did not approach the items in the forthcoming manner that would be necessary to produce a valid profile. After this process was completed, descriptive statistics were generated for each of the included MACI and demographic variables. This included standard indicators of central tendency of spread, as well as an intercorrelation matrix.

Hypothesis 1. The first hypothesis put forth by the present study stipulated that there would be significant differences in the five MACI resiliency variables between those participants who Complete Probation and those who do not. This hypothesis was tested utilizing multivariate analysis of variance (MANOVA), with Probation Completion as the independent variable and the five MACI predictors as dependent variables (Stevens, 2002). Conducting the analysis in this way allowed for a meaningful comparison between these two categorical groups (probation completers versus probation failures) to determine if they could be distinguished based upon the identified MACI strengths variables.

Hypothesis 2. The second hypothesis advanced by the current study asserted that a significant amount of variance in Probation Completion would be accounted for by MACI Expressed Concerns of Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord. Categorical Dependent Variable Model Regression was utilized to test this model, with Probation Completion entered as the binary outcome dependent variable and the five MACI variables entered as predictor (independent) variables. In step one of this procedure, covariates were entered in order to test for their effects. These included the demographic variables of age, race/ethnicity, crime type, and probation violations. Next, the MACI variables were added simultaneously in step two, which allowed the predictors to be added to the model based on their calculated relationship to the outcome variable. This was necessary due to the exploratory nature of this study, as there does not yet exist an empirical basis for hierarchical entry among these MACI variables (Field, 2009).

In order to further explore the relationships between the MACI variables and the positive outcome of probation completion within this population, cluster analysis was also be performed. This will assist in determining whether distinct subgroups of participants exist within the group that measure high on certain MACI strengths variables but not others. The use of cluster analysis will allow for the examination of intragroup and theoretical differences in types of offenders that may exist within the data.

CHAPTER FOUR

METHODS

The purpose of this study was to examine the utility of the Millon Adolescent Clinical Inventory (MACI) in predicting successful outcomes for court-involved adolescents. As previously described, MACI test results, completion status of probationary sentences, and type of criminal charges were collected from a forensic testing center for a sample of 291 adolescents. This chapter provides results of the analyses utilized to answer each of the following research questions: (a) Do probation completers differ in their levels of strengths-based variables as assessed by the MACI? (b) Can strengths-based MACI variables be utilized to predict completion of probation for court-involved adolescents? Findings from analyses implemented to answer these questions as well as additional analyses employed to address the clinical utility of the MACI for the population of interest are included below.

Preliminary Analyses

Following collection of de-identified MACI results, demographics, and probation completion status for each participant, data were cleaned and coded into a solitary database for the purposes of analysis. Frequencies and distribution of scores for each variable of interest were examined in order to check for any data entry errors. Of the 331 case files originally identified for data collection, 40 were excluded for failing to meet various inclusion criteria, such as testing having taken place outside the year range 2003-

2013 or scoring software determining MACI results to be invalid. This left a total sample size of 291 for further analysis. However, probation completion data were not available for all included cases for a variety of reasons, such as the case being too recent (i.e., the participant was still in the process of completing their probation), the participant not actually being sentenced to probation, or the case being processed by another county where access to probation data was not available. The remaining sample size for any analyses involving probation completion was 184.

Demographics. Several demographic variables were collected from each case file, including year tested, age at time of testing, gender, race/ethnicity, and crime type. Frequencies of year tested are provided in Table 2, which illustrates the high prevalence of the use of the MACI in forensic evaluations at this agency in the years 2008 and 2009, which collectively account for 46.7% of the cases in the total sample (48.9% in the probation sample).

| Year Tested | Total Sample | | Probation Sample | |
|-------------|--------------|------------|------------------|------------|
| | N | % to Total | N | % to Total |
| 2003 | 7 | 2.4% | 4 | 2.2% |
| 2004 | 10 | 3.4% | 8 | 4.3% |
| 2005 | 9 | 3.1% | 6 | 3.3% |
| 2006 | 30 | 10.3% | 20 | 10.9% |
| 2007 | 27 | 9.3% | 19 | 10.3% |
| 2008 | 67 | 23.0% | 47 | 25.5% |
| 2009 | 69 | 23.7% | 43 | 23.4% |
| 2010 | 40 | 13.7% | 22 | 12.0% |
| 2011 | 13 | 4.5% | 7 | 3.8% |
| 2012 | 13 | 4.5% | 7 | 3.8% |
| 2013 | 6 | 2.1% | 1 | 0.5% |
| Total | 291 | 100.0% | 184 | 100.0% |

Table 2. Frequencies of Testing Year

Age at time of testing ranged from 12 to 18. Median participant age was 16 for both the total and probation samples with a mean of 15.38 ($SD = 1.19$) and 15.49 ($SD = 1.16$) respectively. In terms of gender, 75.9% ($n = 221$) of the total sample and 75.0% ($n = 138$) of the probation sample were identified as male, while 24.1% ($n = 70$) and 25.0% ($n = 46$) were female. Race/Ethnicity distribution is illustrated in Table 3 and was determined based upon those reported by the clinician in their write up of the results of testing as delivered to the court.

| Race/Ethnicity | Total Sample | | Probation Sample | |
|------------------|--------------|------------|------------------|------------|
| | N | % to Total | N | % to Total |
| Caucasian | 95 | 32.6% | 62 | 33.7% |
| African American | 71 | 24.4% | 41 | 22.3% |
| Hispanic | 89 | 30.6% | 57 | 31.0% |
| Asian | 1 | 0.3% | 1 | 0.5% |
| Multiracial | 35 | 12.0% | 23 | 12.5% |
| Total | 291 | 100.0% | 184 | 100.0% |

Table 3. Distribution of Race/Ethnicity

Crime type. Crime type of the offense was also coded into the data set. The original intention of the study was to code these variables based upon the crime types commonly utilized by the U.S. Office of Juvenile Justice and Delinquency Prevention, which include categories of Person, Property, Drugs, and Public Order referral offenses (OJJDP, 2014). However, upon recording the charges of the participants, several additional categories became readily identifiable and fell into natural categories. Thus, the crime categories coded in the present study included the following: Property (i.e. Theft), Drug/Alcohol (Possession of Controlled Substance or Paraphernalia, Consumption of Alcohol by a Minor), Statute/Conduct (Violation of Curfew, Failure to Obey Police Order, Resisting Arrest), Weapon (Possession of Unlicensed Firearm,

Unlawful Discharge of Firearm), Person (Battery, Assault), or Sex Crime (Criminal Sexual Battery). Frequencies of crime types are available in Table 4. Multiple categories were coded for participants who were charged with multiple types of offenses, with 59.8% ($n = 174$) having been charged with a single type of offense, 32.0% ($n = 93$) with two types of crime, 7.6% ($n = 22$) with three, and 0.7% ($n = 2$) with four.

| | N | % to Sample |
|-----------------|-----|-------------|
| Property | 126 | 43.3% |
| Drug/Alcohol | 38 | 13.1% |
| Statute/Conduct | 64 | 22.0% |
| Weapon | 35 | 12.0% |
| Person | 139 | 47.8% |
| Sex | 32 | 11.0% |

Table 4. Frequencies of Crime Types

Crime type correlates. As an analysis of the MACI's clinical utility and connection to real-world outcomes, the relationships between specific crime types and corresponding subscales were explored. Of the five coded crime types, two had naturally-occurring subscales that warranted examination. As predicted, scores on the Substance Abuse subscale were related to being charged with a Drug and Alcohol related crime, $F(1, 289) = 8.86, p < .01$ with $r = .17$. Similarly, there was a relationship between Sex Crime charges and scores obtained on the Sexual Discomfort subscale, $F(1, 289) = 22.70, p < .01$ and $r = .27$. There was also a correlation between the number of crime categories coded for participants and scores obtained on the Delinquent Predisposition subscale, $r = .16, p < .01$.

Probation completion. As previously stated, probation completion data were not available for all cases originally identified for analysis. For the 184 participants for whom these data existed, 42.4% ($n = 78$) successfully completed the terms of their

probation while 57.6% ($n = 106$) did not. Differences in Probation Completion were then examined across all available demographic variables. The percentage of participants that successfully completed the terms of their probation did not differ by race/ethnicity ($X^2(4, N = 184) = 2.38, p = 0.67$), gender ($X^2(1, N = 184) = 3.59, p = 0.06$), age ($F(1, 182) = 0.68, p = 0.41$), or year tested ($F(1, 182) = 1.45, p = 0.23$).

MACI variables. Descriptive statistics of the five MACI variables utilized in primary analyses (Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord) are available in Table 5 for both Raw Scores and Scaled Scores. An intercorrelation matrix depicting the relationships between each of the MACI variable scaled scores is available in Table 6. Not surprisingly, several of these variables demonstrated strong relationships. Most notably, Identity Diffusion and Self-Devaluation were highly correlated, $r(289) = .71, p < .01$, as were Self-Devaluation and Peer Insecurity, $r(289) = .54, p < .01$.

Previous research conducted with these MACI variables has often focused on reinforcing their connection to common mental health indicators. Although additional measures for depression and anxiety (i.e. the Beck scales) were not available for inclusion in the present study, the MACI includes its own scales purporting to assess these concepts. Table 7 illustrates the correlations between the five MACI scales and the Anxious Feelings, Depressive Affect, and Suicidal Tendency subscales. Additionally, it should be noted that the Anxious Feelings subscale was not found to be related to either Depressive Affect ($r = .08, p = .20$) or Suicidal Tendency ($r = -.07, p = .21$), while those two scales were shown to be strongly correlated ($r = .77, p < .01$).

| | | Mean | SD | Min | Max |
|----------------------|--------|-------|-------|-----|-----|
| Identity Diffusion | Raw | 13.82 | 7.91 | 2 | 39 |
| | Scaled | 44.20 | 20.60 | 7 | 113 |
| Self-Devaluation | Raw | 20.24 | 14.54 | 0 | 62 |
| | Scaled | 43.60 | 25.02 | 6 | 108 |
| Peer Insecurity | Raw | 8.85 | 6.14 | 0 | 30 |
| | Scaled | 44.05 | 23.03 | 4 | 105 |
| Social Insensitivity | Raw | 32.19 | 8.50 | 12 | 55 |
| | Scaled | 65.54 | 17.50 | 21 | 114 |
| Family Discord | Raw | 16.71 | 7.47 | 4 | 39 |
| | Scaled | 67.53 | 20.76 | 14 | 111 |

Table 5. Descriptive Statistics for Primary-Analysis MACI Variables

| MACI Scale | Identity Diffusion | Self-Devaluation | Peer Insecurity | Social Insensitivity | Family Discord |
|----------------------|--------------------|------------------|-----------------|----------------------|----------------|
| Identity Diffusion | - | 0.71* | 0.39* | -0.08 | 0.27* |
| Self-Devaluation | | - | 0.54* | -0.39* | 0.09 |
| Peer Insecurity | | | - | -0.39* | -0.26* |
| Social Insensitivity | | | | - | 0.38* |
| Family Discord | | | | | - |

*Correlation is significant at the .01 level

Table 6. Intercorrelation Matrix for Scaled Scores of MACI Variables

| MACI Scale | Anxious Feelings | Depressive Affect | Suicidal Tendency |
|----------------------|------------------|-------------------|-------------------|
| Identity Diffusion | -0.19* | 0.68* | 0.65* |
| Self-Devaluation | 0.04 | 0.89* | 0.75* |
| Peer Insecurity | 0.30* | 0.54* | 0.48* |
| Social Insensitivity | -0.59* | -0.43* | -0.24* |
| Family Discord | -0.49* | 0.13** | 0.26* |

*Correlation is significant at the .01 level

**Correlation is significant at the .05 level

Table 7. Correlation of MACI Variables to Mental Health Indicators

Prevalence of base rate elevations. As an objective self-report tool, the MACI's clinical utility is largely based on interpretations gleaned from comparisons to population norms. As previously described, scaled scores are considered to be a prominent area of concern if they fall within certain categories of base rate. Base rates of 85 to 115 on a given subscale correspond to the highest 10% of adolescents in the normative population

(Fabry, Bertinetti, & Guzman-Cavazos, 2011). A base rate score of at least 75 to 84 represents the next 15% of adolescents, while scores between 35 and 74 represent the next 60% of the population and the final 15% having scores below 35. By constructing the tool in this way, the MACI was intended to provide clinicians with areas of possible concern and exploration with each individual client along with the prevalence of the disorder or trait within the adolescent population. As depicted in Table 8, the MACI scaled scores did not fall into categories as expected. In particular, participants in the present sample were more likely to fall into clinically significant categories for Social Insensitivity and Family Discord than those in the norm comparison group.

| | Below 35 | 35-74 | 75-84 | Over 85 |
|----------------------|---------------|-------------|-------------|------------|
| MACI Scale | Bottom 15% | Next 60% | Next 15% | Top 10% |
| Identity Diffusion | 38.8% | 52.9% | 4.8% | 3.4% |
| Self-Devaluation | 43.0% | 42.3% | 8.9% | 5.8% |
| Peer Insecurity | 41.6% | 43.6% | 10.0% | 4.8% |
| Social Insensitivity | 5.2% | 64.6% | 16.2% | 14.1% |
| Family Discord | 4.8% | 53.3% | 17.2% | 24.7% |

Table 8. Comparison of Sample Scaled Scores to Base Rate Norms

Research Hypothesis One

The goals of the present study include examining the utility of five MACI variables (Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord) as indicators of individual strengths related to successful outcomes for court-involved adolescents. The first hypothesis stipulated that significant differences would exist in the levels of these five variables between those participants who successfully complete the terms of their probation and those who do not. This hypothesis was tested utilizing multivariate analysis of variance (MANOVA), with Probation

Completion as the independent variable and the five MACI predictors as dependent variables.

| | Completed Probation (N= 78) | | Did Not Complete Probation (N= 106) | |
|----------------------|--------------------------------|------|--|------|
| MACI Scale | Mean | SD | Mean | SD |
| Identity Diffusion | 42.4 | 20.5 | 43.1 | 18.8 |
| Self-Devaluation | 43.3 | 24.3 | 41.6 | 25.2 |
| Peer Insecurity | 46.5 | 23.8 | 43.3 | 22.5 |
| Social Insensitivity | 61.7 | 16.7 | 68.1 | 17.8 |
| Family Discord | 65.9 | 21.6 | 66.7 | 20.0 |

Table 9. Descriptive Statistics of MACI Variables by Probation Status

Results of the MANOVA indicated that there was not a statistically significant difference in participant levels of the five MACI variables of interest based on probation completion status, $F(5, 178) = 1.48, p = .20$; Wilk's $\Lambda = .96$. Descriptive statistics for each variable by group are available in Table 9. Based on these results, however, it became clear that an important difference might exist along one of these variables in particular and may have been obscured by other variables. Further analysis was therefore conducted in order to determine whether Social Insensitivity, when examined independently, might yield differences between groups as predicted. Here, as expected, there was a significant difference in Social Insensitivity between those participants who completed probation and those who did not, $F(1, 182) = 5.97, p = .02$.

Research Hypothesis Two

Strengths-based model. The present study also sought to construct and test a model exploring the utility of the five MACI variables of interest as strengths-based predictors of probation completion success. In order to do so utilizing a binary outcome variable, logistic regression was utilized. The second research hypothesis put forth stipulated that these five variables would account for greater significant unique variance

in the prediction of probation completion than that accounted for by the demographic covariates. Data from the available participants yielded the following logistic model:

$$\text{logit}(p) = .917 - .005(\text{ID}) - .005(\text{SD}) + .006(\text{PI}) - .026(\text{SI}) + .009(\text{FD}).$$

Analysis of the model indicated that these five MACI variables are not accurate indices of predicting probation completion. For instance, the likelihood ratio test revealed that the model including these variables did not fit the data better than the simpler nested model, which predicted all participants to not complete probation ($\chi^2(5) = 7.51, p = 0.19$). Measures of the proportion of variance in probation completion explained by the five MACI variables included in the model suggested a small relationship, with Cox & Snell $R^2 = .04$ and Nagelkerke's Adjusted $R^2 = .05$, which provides definitive evidence counter to the present research hypothesis.

Further analysis of the model's ability to correctly classify participants yielded a hit rate of 59.8%, and it was able to correctly identify those who did not complete probation at a rate of 82.1% (87 of 106). However, the model was able to correctly identify those participants who actually completed the terms of their probation at a rate of just 29.5% (23 of 78). While the model demonstrated an overall increase in accuracy from the null model, which predicted all participants to be in the non-completion group and was accurate for 57.6% (106 of 184) of participants, this slight improvement could hardly be considered clinically relevant or useful even if the findings had been statistically significant.

Post-Hoc Analysis

Deficits-based model. Given the results of research hypothesis two, further analysis was performed in order to determine whether a model constructed utilizing a

different set of MACI variables might better predict Probation Completion. The variables chosen for this exploratory analysis were based on the opposite theoretical basis of the present study, namely that variables more traditionally associated with criminal behavior would predict negative outcomes for court-involved adolescents. Therefore, Unruly (act out antisocially, resist prosocial norms/standards), Oppositional (irritable, unhappy, passive-aggressive), Delinquent Predisposition (inclination to break the law or violate rights of others), and Impulsive Propensity (poor control over impulses, including those of sexual and/or aggressive nature) scaled scores were utilized as predictors of Probation Completion.

The logistic model based on these variables was as follows: $\text{logit}(p) = 2.905 - .029(U) - .015(O) - .025(DP) + .021(IP)$. The ability of this model to accurately classify participants was greater than the strengths-based model at 62.5%, correctly identifying 79.2% (84 of 106) of probation non-completers and 39.7% (31 of 78) of completers. Although this model was just slightly better than its counterpart at correctly classifying participants, it demonstrated much greater fit to the data and higher predictive validity. The likelihood ratio test revealed that the inclusion of these variables added to the model significantly beyond the nested model, with $X^2(4) = 19.378, p < 0.01$. Estimates of proportion of variance explained also increased over the strengths-based model, with Cox & Snell $R^2 = .10$ and Nagelkerke's Adjusted $R^2 = .13$.

Cluster Analysis

In order to determine whether natural subgroups exist in the data, cluster analysis was performed utilizing data from all participants. The five MACI strengths-based variables included in the primary analyses did not reveal any significant clustering.

However, based on the above analysis utilizing traditional indicators of risk for future criminal activity and informed by previous research, Delinquent Predisposition, Unruly, Oppositional, and Impulsive Propensity were entered utilizing a two-step procedure. Due to its close relationship with these variables, Social Insensitivity was also included in the analysis (intercorrelation matrix of cluster analysis variables available in Table 10).

| MACI Scale | U | O | SI | DP | IP |
|---------------------------|---|-------|-------|-------|-------|
| Unruly | - | 0.39* | 0.46* | 0.61* | 0.64* |
| Oppositional | | - | 0.20* | 0.31* | 0.66* |
| Social Insensitivity | | | - | 0.75* | 0.49* |
| Delinquent Predisposition | | | | - | 0.57* |
| Impulsive Propensity | | | | | - |

*Correlation is significant at the .01 level

Table 10. Intercorrelation Matrix for Cluster Analysis Variables

Here, participants appeared to cluster into two distinct groups: the A-Social Group, comprised of 164 participants who scored higher on the included MACI variables, and the Baseline group, which included 127 participants, demonstrated lower levels on measures of these constructs. Silhouette measure of cohesion and separation ($s = .50$) indicated a cluster quality of fair to good, and the 1.29:1 ratio of largest to smallest cluster size was acceptable. These findings suggest that participants did indeed tend to fall into one of these two groups. Descriptive statistics for each group by included MACI variable are available in Table 11, and all mean differences were determined to be statistically significant at $p < .001$.

| | Baseline Cluster | | | | A-Social Cluster | | | |
|---------------------------|------------------|-------|-----|-----|------------------|-------|-----|-----|
| | Mean | SD | Min | Max | Mean | SD | Min | Max |
| Unruly | 51.35 | 11.43 | 21 | 74 | 81.69 | 28.42 | 56 | 405 |
| Oppositional | 48.83 | 16.15 | 19 | 93 | 66.65 | 13.18 | 30 | 99 |
| Social Insensitivity | 53.34 | 13.73 | 21 | 80 | 75.00 | 14.18 | 42 | 114 |
| Delinquent Predisposition | 56.14 | 11.99 | 25 | 81 | 80.37 | 14.32 | 47 | 115 |
| Impulsive Propensity | 38.23 | 14.64 | 9 | 72 | 74.29 | 17.58 | 34 | 115 |

Table 11. Descriptive Statistics for Cluster Analysis

Examining the differences between these clusters leads to several important conclusions. First, participants in the A-Social cluster scored on average above the cutoff for a clinical significant elevation on three of the included variables (Unruly, Social Insensitivity, and Delinquent Predisposition) and near that level on a fourth (Impulsive Propensity). These findings indicate not only that the A-Social group tended to have higher levels of these indicators than did their counterparts in the Baseline group, but taken independently rose to a level suggesting the need for clinical attention. More importantly, the clusters demonstrated a difference in their probation completion rates. While 51.7% (46 of 89) of Baseline participants successfully completed the terms of their probation, just 33.7% (32 of 95) did so from the A-Social group, and these differences were found to be statistically significant ($X^2(1) = 6.10, p = 0.01$).

Summary of Findings

Overall, the findings of the present study did not support the primary research hypotheses as proposed. Analysis of demographics supported the conclusion that the sample was generally representative of the juvenile delinquent population within the United States, although Black youth and girls were somewhat underrepresented and more

youth were charged with crimes against persons than would be expected. The sample also differed somewhat from MACI normative data in their levels of several of the strengths-based variables, most notably scoring in the clinically-significant range on both Social Insensitivity and Family Discord at a higher rate than normative data would predict. In an exercise evaluating the ability of the MACI to accurately predict real-world outcomes, specific crime types were found to be related to their corresponding subscales as would be expected.

Research question one hypothesized that participants who completed the terms of their probation and those who did not would differ in their levels of five MACI variables chosen for their approximation of strengths indicators identified by existing literature (Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord scaled scores). However, this hypothesis was not substantiated overall, as the only variable demonstrating such a difference was Social Insensitivity. Research question two examined the differences in the ability of these variables to predict probation completion, and it was determined that the five MACI variables did not account for significant variance beyond that provided by the covariates. Post-hoc analysis further compared these variables against a model created using traditional deficits-based variables (Unruly, Oppositional, Delinquent Predisposition, and Impulsive Propensity scaled scores). Results of analysis revealed that a deficits-based model fit the data much better than one built around strengths, and it was more adept at correctly classifying participants by their probation status.

Similarly, cluster analysis indicated that the participants did not naturally fall into distinct groups based on their scores on the strengths-based variables, but did cluster

around the deficits-based variables. Furthermore, those participants in the A-Social group who scored higher on the deficits variables on average were less likely to complete the terms of their probation. In summary, the present study revealed that MACI strengths-based variables proved less useful in predicting outcomes for court involved adolescents than did analyses utilizing more traditional deficits indicators.

CHAPTER FIVE

DISCUSSION

The results of the present study suggest several areas of need within the literature for identification of strengths in the court-involved adolescents and provide direction for this line of research in the future. Some of these findings lend support to previous studies utilizing a more traditional, deficits-based approach to predicting outcomes for this population. In this chapter, present findings are interpreted and compared to those found in the existing literature, strengths and limitations of the study are explored, and implications for future research and clinical practice are identified. While findings of this study lend some support to utilization of traditional means of assessing risk for negative outcomes in juvenile offenders, they also highlight the lack of focus on the identification of assets for resilience that these individuals might possess in commonly used assessment tools.

Findings: Demographic and Outcome Variables

Comparison to population demographics. Examining demographic variables reveals several important findings in terms of the representation of the present sample to the population of adolescent offenders in the United States, as well as the prevalence of the use of the MACI. As indicated by Table 4.1, the frequency of testing years suggests that overall changes in the desirability of the MACI as a forensic testing tool have changed dramatically over the last decade. The fluctuations over the 11 year sample,

where a large proportion of the data comes from a 2-year period, likely reflect numerous contextual factors. These no doubt include the individual testing preferences of the clinicians at the agency from which the data was drawn, but also likely the previously-discussed shift away from the use of the MACI in forensic evaluations over the last several years of the sample.

In fact, when asked to address this pattern in the data, the director of the agency anecdotally noted that the court's preference for different objective testing, in particular the PAI, had contributed to the replacement of the MACI in many clinicians' standard testing batteries implemented in the region from which the sample was drawn. This observed trend in the data set supports the previously-described notion in the literature that the field of forensic assessment has rapidly moved away from utilizing the Millon family of testing instruments for court-ordered evaluation (Rogers, Salekin, & Sewell, 2000).

Over this time period, the available sample seemed to approximate the population of adolescent offenders in the United States in a number of important ways. In terms of gender, 24.1% of the total sample was female, while available U.S. Bureau of Justice statistics revealed that 29.4% of total juvenile arrestees in the United States were female between 2003 and 2012 (US Department of Justice Office of Juvenile Justice and Delinquency Prevention, 2014). Similarly, 28% of youth involved in juvenile delinquency cases in the US in 2009 were female (US Department of Justice National Center for Juvenile Justice, 2009). In that same year, 52% of court cases for delinquent youth involved adolescents under the age of 16, while the present sample had a median age of 16 with a mean of 15.38 ($SD = 1.19$).

Unfortunately, race and ethnicity statistics were less clear cut for several reasons, but nevertheless are indicative of the validity of the present sample as representative of the population. Coding of race for individuals in the present sample was based upon the available data in each case file, which was dependent upon accurate and consistent reporting. This is problematic when coding for multiracial individuals, true ethnic identity is not ascertained or assumed based upon a faulty police report, or discrepancies in racial identity hidden within the group coded as Hispanic (i.e. a participant identifying as Black Hispanic inaccurately coded). However, when Caucasian and Hispanic groups are combined, they account for 63.2% of the sample, while 24.4% was African American and 12% multiracial. In 2009, 64% of juvenile delinquency court cases involved White adolescents and 34% concerned Black youth (US Department of Justice National Center for Juvenile Justice, 2009). These results collectively suggest that adolescents identifying as Black, and to a lesser degree female, may be somewhat underrepresented compared to adolescent offenders in general. However, as a whole the available sample approximated the age, gender, and race/ethnicity of the population of court-involved adolescents in the United States surprisingly well.

Crime type. Although coding categories of crime types in the present study differed somewhat from those utilized by the US Office of Juvenile Justice and Delinquency Prevention (2009) for descriptive purposes, the present sample nevertheless compares favorably to the generalized population in some ways. For instance, property crime was the most prevalent type of charge associated with this population in 2009 at 38%, while 43.3% of the present sample was charged with this type of offense. Drug-related offenses also occurred at similar rates in 2009 (11%) as instances of drug/alcohol

charges observed in the sample (13.1%), as did rates of public order (27%) versus statute/conduct charges (22.0%). However, the most prevalent type of offense in the sample was found to be crimes against persons at 47.8%, nearly twice the rate of the general population at 24%.

A confounding factor in such a category to category comparison is the fact that the present study allowed for multiple crime categories to be coded for each participant based on charges, whereas available comparison data merely indicated the “most severe offense.” The finding that 59.8% of the present sample was charged with a single type of offense, while 32.0% were charged with two types of crime, 7.6% with three, and 0.7% with four must be weighted appropriately when considering the prevalence of crime types within the sample versus the generalized population. Therefore, there are two general conclusions that can be made about the present sample with regard to their observed crime types: 1) The sample committed crimes against persons at a higher rate than would be expected in the population, and 2) The criminal charges brought against the sample represented an appropriate range of various other types of crimes associated with those committed by those in this age group.

Probation completion. Further examination of demographic variables revealed that there were no significant differences in probation completion in terms of gender, race/ethnicity, age, or year tested. Unfortunately, there were 107 participants for whom all data existed except for probation completion which leaves questions regarding what findings might have been available or different with a full data set. Nevertheless, the number of complete data files ultimately used in analyses involving this variable was

sufficient based upon pre-collection estimates, which indicated that a minimum of 75-90 participants would be necessary for proposed analyses (Field, 2009).

Base rate elevations. Examining the results of base rate evaluations also yields interesting findings regarding the representativeness of the sample to the population of adolescent offenders. As is evident in Table 4.6, scores obtained on the five MACI variables of interest did not fall into scoring categories consistent with those found in the norm group. This analysis indicated mostly sub-clinical levels of Identity Diffusion, on which 91.8% of participant scaled scores fell below the clinical threshold of 75, where only 75% were predicted to do so based on norm data. This was also true for Self-Devaluation and Peer Insecurity, which both saw 85.2% of participants score sub-clinically.

Conversely, 41.9% and 30.2% of participants had scaled scores above 75 on Family Discord and Social Insensitivity, respectively, while only 25% would be expected to do so on each. This indicates that the sample reported concerns related to these two issues much more frequently than would be expected based on norm data. In fact, 24.7% of participants scored over 85 on Family Discord rather than the expected 10%, suggesting that a relatively large portion of sample clinical reports listed this area as a primary concern for these individuals.

While the causes of these differences can merely be speculated upon, connection to other MACI variables might help to explain some of these cases. For instance, there was a moderate positive relationship between Family Discord and Childhood Abuse scaled scores ($r = .33, p < .01$) and a very strong positive relationship between Social Insensitivity and Delinquent Predisposition ($r = .75, p < .01$). These relationships suggest

that participants were more likely to experience abuse or general delinquency, which may contribute to these observed elevations. These findings highlight important ways that this group differs from the population and point to specific areas of concern for this group that could be a target of clinical intervention. Collectively, these results suggest that the sample provided a reasonable approximation of the population of interest in terms of demographics and types of crimes committed, but differed in several important ways in terms of clinical concerns.

Findings: MACI Variables

Social Insensitivity. Examining the descriptive statistics (Table 4.3) and intercorrelation matrix (Table 4.4) of the five MACI variables included in the primary analyses of the present study yields several important observations. It is not surprising to see that the sample registered relatively high ratings on scaled scores of Social Insensitivity ($m = 65.54$) given its previously demonstrated association with delinquent behavior (Millon, 1993). What is perhaps most notable in these statistics is the moderately strong negative relationship found between Social Insensitivity and two other variables of interest: Self Devaluation ($r = -.39, p < .01$) and Peer Insecurity ($r = -.39, p < .01$), while these two variables shared a strong positive relationship ($r = .54, p < .01$) with one another.

Millon's (1993) conceptualization of Self Devaluation as a measure of the degree to which the adolescent is dissatisfied with their self-image, and it has been linked to lower self-esteem (Pinto & Grilo, 2004). Participants who registered higher scores on this measure, indicating low satisfaction with self-image and low self-esteem, were thus less likely to reject socially-accepted beliefs about standards of interpersonal behavior.

There are several potential explanations for this finding. It should be noted that scores on the Self Devaluation subscale were highly correlated with those obtained on the Depressive Affect subscale ($r = .89, p < .01$) but not on the Anxious Feelings subscale ($r = .04, p = .53$). Perhaps there is a hedonic or volitional component to Social Insensitivity that is suppressed by emotional issues such as depression, although exploration or confirmation of such a hypothesis is out of scope for the present study.

Similarly, Millon (1993) designed the Peer Insecurity scale in order to measure “the adolescent’s degree of success in finding a comfortable, rewarding position in his or her peer group.” The present study’s findings therefore indicate that participants who scored higher on this measure, indicating that they were less confident in their ability to choose peer groups while fostering intimate friendships, were less likely to deviate from the norm in terms of their ability to attune to and value the needs of others. Perhaps being less confident in one’s own ability to successfully navigate their social world fosters greater awareness of what that success would look like. Stated another way, feeling as though one is on the outside socially might be related to efforts to gain social access through paying attention to and modelling the appropriate behaviors of members of the target group.

Findings: Research Question One

The present study sought to examine the clinical utility of five MACI variables (Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord) as indicators of strengths and resilience for delinquent youth. These variables were chosen based on their close approximation of concepts previously demonstrated to be associated with positive outcomes for adolescents at risk for criminal or other

undesirable behaviors. It was therefore surprising to find a lack of evidence in support of the first research hypothesis, which stated that differences would exist in the scores of these subscales between those participants who successfully completed their probationary sentence and those who did not.

Social Insensitivity was the only variable of interest that demonstrated a significant difference between probation completers and non-completers. Millon defined this scale to measure an individual's "casual indifference to the presence of discomfort and pain in others (Millon, 1993, pg. 15)." Participants scoring highly on this scale could be described as somewhat apathetic to the welfare of others (Salekin et al., 2005). These findings are consistent with those previously documented in the literature, where scores on the Social Insensitivity scale have been shown to be positively correlated with a measure of aggressive behavior and delinquency (Millon, 1993).

Perhaps a more important finding of the present study pertaining to the first research question is therefore what was not found. Scores on the remaining subscales of Identity Diffusion, Self-Devaluation, Peer Insecurity, and Family Discord have been previously shown to be connected to various negative outcomes, including depression, hopelessness, anxiety, and lower self-esteem, findings which were intermittently supported by the present study. As is evident in Table 4.6, Depressive Affect and Suicidal Tendency were strongly to very strongly positively correlated with Identity Diffusion, Self-Devaluation, and Peer Insecurity (and, to a lesser degree, with Family Discord). However, this pattern did not hold true for Social Insensitivity, which was negatively correlated with Anxious Feelings ($r = -.59, p < .01$), Depressive Affect ($r = -.43, p < .01$), and Suicidal Tendency ($r = -.24, p < .01$).

It is clear from the present study that these types of issues do not appear to be related to probation completion rate, which is not to say that they are not pervasive problems across both groups. These findings may also be interpreted as indicative of a flaw in using probation completion as a suitable measure of positive outcomes in this population. Generally speaking, using this binary variable as an indicator of success may mask several other important sources of variation in the success rate of participants on probationary sentences, such as length of sentence, number of violations, etc. This problem is discussed in greater detail below as a limitation of the present study, as it applies broadly to many of the analyses included in the present study that used probation completion as an outcome variable.

Findings: Research Question Two

A significant question raised by the present study is one found within the history of counseling psychology in clinical practice, that of the consideration of strengths and deficits. The focus of the second research question was on dissecting and comparing the predictive power of each of these types of variables as measured by an existing evaluation tool. In order to do so, logistic regression models were created utilizing two different sets of predictive variables. Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord scaled scores were included in the strengths model. Based on their similarity to factors traditionally implicated in deficits-based risk assessment for juvenile delinquents, Unruly, Oppositional, Delinquent Predisposition, and Impulsive Propensity scaled scores were used to create the deficits model.

It should be noted that the use of probation completion, a binary outcome variable, put limitations on the type of analyses possible in order to answer this research question. For instance, had a continuous variable been available it would have been possible to compare the collective variance accounted for by each set of variables. Nevertheless, the available data allowed for a direct statistical comparison of these models based on their ability to correctly classify participants by their probation completion status.

The results of the creation and comparison of these predictive models leads to several important conclusions. The strengths-based model accurately predicted probation status for 59.8% of participants, which was statistically no better than chance, while the deficits-based model did so at a rate of 62.5% and accounted for 10-13% of the variance observed in probation completion. These findings provide clear evidence that traditional deficits variables as measured by the MACI are more useful than strengths indicators in predicting probation outcomes for juvenile delinquents. While they did not support the proposed hypothesis for this research question, they are consistent with previous studies that have used various similar risk factors for predicting recidivism in this population (Mulder et al., 2011).

However, it is also worth noting that neither model was able to predict probation completion at a level that would be deemed clinically useful. Setting aside the issues already raised concerning the use of probation completion as an outcome variable, these results suggest that the MACI may not be able to provide the type of reliable and valid predictive information about adolescents sentenced to probation. This is disappointing

information for clinicians not only for strengths identification purposes, but also for connecting test results to real-world outcomes in general.

Findings: Cluster Analysis

In order to further evaluate the use of existing strengths and deficits-based predictive variables, a cluster analysis was performed. Due to the interrelated nature of many of the strengths-based variables within the literature, such as those results highlighted by Tangeman & Hall (2011) and Monahan, Goldweber, & Cauffman (2011), it was hypothesized that participants would naturally cluster around Identity Diffusion, Self-Devaluation, Peer Insecurity, Social Insensitivity, and Family Discord. It was thought that they would naturally fall into two groups, with one group scoring lower on these scales and indicating higher presence of factors for resilience.

Conversely, another group scoring higher on these MACI scales would be suggestive of an individual possessing less of the individual, social, and behavioral resources hypothesized to be associated with positive outcomes. Unfortunately, participant scores did not demonstrate any meaningful clustering around these variables as predicted, even when Social Insensitivity was excluded due to its negative correlation with several of the other scales. This suggests that strengths, as measured and interpreted by the MACI, not only were unable to show utility in terms of their predictive power as determined by previous analyses, but also in their use in categorizing and grouping individuals statistically. These findings further reinforce previously discussed results which suggest that deficits-based variables as assessed by the MACI are more useful in predicting outcomes in clinical application for court-involved adolescents.

Limitations of the Present Study

There are several important limitations of the present study which must be considered when interpreting these results that mostly concern threats to internal and external validity as well as reliability. An important caveat to the present study is the fact that it involves the use of archival data was collected from case files at a testing agency over an 11-year period. Thus, the primary researcher was not able to personally administer and score the psychological assessments used in the analysis. While there is no reason to assume that administration errors were made by the clinicians responsible for these records, this is an assumption that would not have to be made under ideal conditions. The overall lack of control over data collection may be a source of error that is unaccounted for in the results and negatively influences the interpretability of the findings.

Furthermore, the method of data collection limited the amount of data that could be gleaned from the case file of each participant. Since MACI scores had to be hand-keyed into the project database rather than simply downloaded from an existing electronic source, the inclusion of each item score was not logistically feasible and only scale scores were recorded. Although this did not present any limitations for the present study as proposed, it restricted clinical utility because it did not allow for additional analyses. For instance, it could potentially have proven useful to create a subscale from existing items which would predict probation completion among participants. Unfortunately, existing data collection procedures combined with time limitations on the accessibility of the records proved to be barriers to this additional and logical step in the project.

The present study, as originally proposed, called for the use of several additional variables which were found to be unavailable upon gaining access to the data. Ideally, it would have been possible to determine the number of probation violations and length of sentence for each individual case, which could have been included as additional outcome variables or covariates in the examination of the primary research questions. However, it was determined that probation violations could potentially be unreliably recorded in the county agency data base and/or introduce the bias of individual probation officers who might have a tendency to either under- or over-report violations from their caseloads. Additionally, although it seemed to be a logical piece of information that would be easily accessed, sentencing data was simply not available.

Similarly, additional variables were considered for inclusion which were clearly unavailable but may have provided invaluable explanatory capability. For instance, school achievement data (i.e. GPA and/or disciplinary data) could have provided another piece of important information based on its established relationship to recidivism (Katsiyannis et al., 2008), however records containing this data were out of scope for the current project. A similarly-structured study in the future might incorporate additional assessment data to capture achievement (i.e. the Wide Range Achievement Test) or even cognitive ability (i.e. the Wechsler Intelligence Scale for Children) if available.

Perhaps just as limiting is the lack of additional demographic variables, particularly socioeconomic status. The archival nature of the study left the design without a consistent means to determine SES for each individual, and it was therefore omitted as a potential covariate. SES is a construct that is historically difficult to reliably measure (Hauser, 1994), but additional variables such as household income, parent level

of education, or participant eligibility for free and reduced lunch programs may have held additional explanatory utility (Sirin, 2005). As previously stated, lack of specificity in other demographic variables (such as race/ethnicity) potentially damaged data integrity and is another cause for using caution when interpreting the results.

Another additional variable that could have provided useful information is gang membership status of each individual included in the study. It is not unreasonable to assume that a proportion of the present sample was involved in gang activity based on its proximity to a major urban center known for high gang membership as well as the obvious relationship between this variable and involvement with the criminal justice system. Previous studies have found that adolescent gang membership is associated with lower perception of prosocial opportunities, higher rates of substance use, and greater association with antisocial peers (Jenson & Howard, 1998) as well as higher risk for recidivism (Caudill, 2010). Inclusion of gang membership as an additional demographic variable would have allowed for consideration of this factor as a potential covariate for probation completion and overall relationship to participant functioning at the time of testing.

Perhaps the most important limitation of the present study is the use of Probation Completion as an outcome variable, for several reasons. Most obviously, the use of this binary outcome variable limited the types of analyses available for evaluating the predictors of interest. For example, a continuous variable would have allowed for a regression analysis which would have been more generalizable to the population. More importantly, the binary nature of probation completion obscures many potential sources of error, including sentencing terms and circumstances surrounding violations. For

instance, measuring the outcome in this way would code an individual who committed a new violent crime while on probation the same as a participant who violated their probation for accumulating several less serious violations (i.e. curfew or alcohol use).

Probation completion is also an inadequate outcome variable due to the racial disparities that exist within the criminal justice system, as highlighted by Alexander (2010) and others. Although there were no statistically significant differences in probation completion based on race/ethnicity found in the present study, it is impossible to determine whether systemic bias may have influenced either the original arrests of minority participants or their observed probation completion status. Doing so was beyond the scope of the present study, however it would be impossible and irresponsible to measure outcomes for juvenile delinquents without considering that not all participants are afforded equal opportunities within the criminal justice system.

Strengths of the Present Study

The present study capitalized upon the availability of data from a county court testing agency in the vicinity of a major US metropolitan area. As such, the included sample approximated the general population of juvenile offenders within the United States in a number of different ways. In spite of the fact that Black youth and girls were somewhat underrepresented in the sample, this makes the findings of the present study highly generalizable to the target population. Although the results did not support the proposed hypotheses, we would expect to find similar results if the study was conducted on a different sample, highlighting the need for additional exploration of the original research question.

In assessing the gap between research and clinical practice regarding strengths of juvenile delinquents, the current study sought to evaluate the utility of an existing widely used measure, albeit for a new purpose. Although findings did not support the proposed research hypotheses, the incorporation of a tool that is commonly understood allowed for results that are easily interpretable for clinicians in a variety of settings. This made for a research project that was founded in real-world applications and attempted to shed light on a problem of interest to a wide range of fields connected to the juvenile justice system.

Perhaps the greatest strength of the present study was its exploratory nature. As articulated in previous chapters, the literature currently lacks the type of critical analysis of strengths assessment in clinical settings. A goal of this project was to provide a means to measure strengths of juvenile delinquents for real-world applications. Many psychological evaluations include a brief summary of individual strengths, but it is common for clinicians to do so utilizing anecdotal and/or qualitative information rather than basing them on empirically validated measures of resilience factors for this population. Although findings did not accomplish this goal as was hoped, they highlight the wide gap that exists between research and practice in the domain of strengths assessment.

Suggestions for Future Research

The present study utilized the Millon Adolescent Clinical Inventory for several reasons. As illustrated earlier, this measure was specifically designed for use with juvenile delinquents as an evaluation tool of several areas of clinical interest. It was also widely utilized by clinicians seeking to assess members of the target population during the time period under examination, specifically at the agency that provided access to the

archival data. However, the MACI is obviously not the only self-report objective measure of personality functioning widely used by clinicians for the purposes of evaluating court-involved adolescents. In fact, to some degree the MACI has fallen out of favor within the judicial system for such uses (Rogers, Salekin, & Sewell, 2000).

This, in conjunction with the disappointing results of the primary analyses, call for similar inquiries with other widely used inventories, such as the Minnesota Multiphasic Personality Inventory-Adolescent or the Personality Assessment Inventory-Adolescent. The hypotheses as proposed, which were based on the existing literature linking strengths to positive outcomes in at-risk youth, are worthy of investigation using other existing measures. Perhaps existing scales on these alternate assessment tools would be useful in predicting positive outcomes for juvenile delinquents. The lack of support for the proposed hypotheses does not diminish the importance of scientifically identifying strengths of the individuals within this population, and the advantages of doing so with a widely utilized measure are clear.

As described previously, item-level detail was not available for collection in the present study, a condition which restricted the types of analyses possible for the data set as constructed. However, future research on this topic might do so by evaluating the predictive power of existing items within the MACI and similar self-report inventories that are commonly used with court-involved adolescents. Doing so would allow for researchers and clinicians to utilize items that have a wealth of normative data behind them, as well as provide future direction that would be ready for immediate application based on the wide-availability and usage of the existing measures with this population.

Although providing recommendations founded on widely used and available measures would be beneficial for numerous reasons, there exists another obvious solution to the problem at hand. Development of a strengths-based assessment tool for this population based on the indicators identified in the literature would potentially solve many of the problems identified by the present study in terms of clinical application. These might include the categories of potential protective factors hypothesized by Pollard and colleagues (1999): individual characteristics, social bonding, and healthy beliefs/clear standards for behavior. Factors such as familial support (Johnson et al., 2011), social support seeking (Shulman & Cauffman, 2011), parental support (Jones, Cauffman, & Piquero, 2007), self-esteem (Church et al., 2012; Barry et al., 2007), and self-efficacy (Carroll et al., 2013; Tangeman & Hall, 2011) have already been shown to be connected to positive outcomes for this population. The next step for clinical application is to develop a singular measure of these constructs for use in real-world settings with juvenile delinquents.

Implications for Clinical Practice

The findings of the present study reveal that there are problems with using probation completion as an indicator of successful outcomes in court-involved youth. This in and of itself suggests that an important conclusion can be drawn about this particular variable in real-world settings. It is undoubtedly true that completing probationary sentences represents a successful outcome for court-involved adolescents, and clinicians should surely continue to seek the highest rates of graduation from their caseloads. However, the binary measurement of this outcome likely tells an incomplete story at an individual level. There may be additional benefits associated with being on

probationary status other than not being incarcerated that could fall through the cracks if court services were to merely evaluate success based on this simplistic criteria.

For instance, any amount of time spent in the community represents opportunity to reap the benefits of education, social support, and mental health services that may not be available while incarcerated. Further, these types of benefits may require longer lead times to buffer against future negative outcomes, even for youth who fail to successfully complete their probation. Professionals are therefore encouraged to consider the contextual nuances of the individuals with which they work while recognizing that a successful outcome likely does not look the same for every member of this population.

Along those lines, it is important for clinicians working with this population to keep an ongoing database of such information to look for such trends and provide real-time evaluation of interventions in a local clinical scientist model. Although the data for the present study was available and of potential use for evaluating the outcomes of the probation program in a large county court system, it was not aggregated or utilized in any practical way outside of each individual case. This is a wasted opportunity to uncover valuable localized trends in the data that could have profound implications for court-involved adolescents within the communities in which they reside and seek treatment.

These findings also contribute to the ongoing pursuit of evaluating the use of the MACI in clinical settings. Prior studies have demonstrated that the MACI is useful in identifying youth who display violence towards staff in inpatient settings (Caggiano, 2000), classify offenders by symptomatology (Glaser et al., 2005), and categorize offenders by crime type (Oxnam & Vess, 2006). The present study can add the

prediction of juvenile offender probation completion status to this line of existing research with the literature on clinical applications of the MACI.

Conclusions

As executed, the present study revealed several important findings. Juvenile delinquents who completed terms of probationary sentences did not differ from non-completers in their levels of strengths-based variables as measured by the Millon Adolescent Clinical Inventory. Findings also revealed that predictive models built using more traditional risk indicators were better able to identify and classify participants by probation status. These results suggest that the current status of juvenile delinquent clinical assessment continues to overwhelmingly revolve around the identification of what is going wrong with these adolescents rather than on seeking balance in the process by measuring factors which might aid in obtaining more positive outcomes.

Several changes to the present study might have yielded even more powerful findings. Inclusion of additional variables which were unavailable, such as length of sentence or number of probation violations, might have negated some of the problems associated with using probation completion as a singular and binary outcome variable. Similarly, adding measures of socioeconomic status, academic achievement, and gang membership may have led to further analysis of the sources of variance in the observed differences in probation status, though these factors were out of scope for the present study as constructed.

Suggestions for future research therefore include the introduction of additional outcome variables to capture the nuances of finding successful outcomes for court-involved adolescents. Similarly, analysis using existing items on the MACI or other

existing objective self-report measures might allow for the creation of new subscales on widely used inventories for immediate implementation. Perhaps the strongest recommendation for future research is the creation of a new research-based evaluation tool for clinical assessment of strengths in juvenile delinquents. Doing so would equip clinicians with the additional tools necessary to help adolescents move towards positive outcomes, thus reducing risk for recidivism.

The present study as conceived was founded on the assumption that a gap currently exist between research and clinical practice in the area of strengths assessment for juvenile delinquents. The findings not only confirm the existence of this gap, but provide evidence that it is much wider than expected. Closing this gap in the future could prove to play an essential role in ensuring proper and just evaluation, care, and treatment for this vulnerable population.

APPENDIX

MILLON ADOLESCENT CLINICAL INVENTORY SCALES

| Modifying Indices | | Items |
|--------------------------|--|--------------|
| Disclosure | Assesses how candid or secretive a client responded to items | 160 |
| Desirability | Degree to which client attempted to present self favorably | 17 |
| Debasement | Excessive or exaggerated psychological symptoms/problems | 16 |
| Reliability | Tests for random responding | 2 |

| Personality Patterns | | Items |
|-----------------------------|---|--------------|
| Introversion | Indifference, lack of capacity to experience life as pleasurable or painful | 44 |
| Inhibited | Shy or ill at ease with others; would like to be close to others, but have learned to keep distance | 37 |
| Doleful | Exhibit dejected or gloomy moods, pessimistic | 24 |
| Submissive | Lack assertiveness, soft-hearted, sentimental, kind; unlikely to be leaders | 48 |
| Dramatizing | Talkative, charming, emotionally expressive | 41 |
| Egotistic | Self-centered, confident, narcissistic | 39 |
| Unruly | Act out antisocially, resist prosocial norms/standards | 39 |
| Forceful | Strong-willed, tough-minded, domineering | 22 |
| Conforming | Respectful, rule-conscious | 39 |
| Oppositional | Irritable, unhappy, passive-aggressive | 43 |
| Self-Demeaning | Content to suffer and may undermine efforts of others to help | 44 |
| Borderline Tendency | Instability in affect, relationships, self-concept, fear abandonment, self-destructive behaviors | 21 |

| Expressed Concerns | | Items |
|---------------------------|--|--------------|
| Identity Diffusion | Confused about who they are and personal goals | 32 |
| Self-Devaluation | Dissatisfied with self-image, low self-esteem | 38 |
| Body Disapproval | Dissatisfied with body | 17 |
| Sexual Discomfort | Concern or confusion about sexual thoughts/feelings | 37 |
| Peer Insecurity | Sadness or concern about being rejected by peers | 19 |
| Social Insensitivity | Unconcerned about the welfare of others, more concerned with personal gain | 39 |

| | | |
|-----------------|---|----|
| Family Discord | Family is tense and conflictual, have little support from family members, feel as though parents are detached | 28 |
| Childhood Abuse | Shame or disgust about verbal, physical, or sexual abuse | 24 |

| Clinical Syndromes | | Items |
|---------------------------|--|-------|
| Eating Dysfunctions | May have anorexia nervosa or bulimia nervosa | 20 |
| Substance Abuse | May frequently use or abuse alcohol and/or other drugs | 35 |
| Delinquent Predisposition | Inclination to break the law or violate rights of others | 34 |
| Impulsive Propensity | Poor control over impulses, including those of sexual and/or aggressive nature | 24 |
| Anxious Feelings | Apprehensive and anxious in general, nervous and fretful | 42 |
| Depressive Affect | Less energetic, experience fatigue, loss of confidence, feelings of inadequacy | 33 |
| Suicidal Tendency | Have suicidal thoughts and plans, may also believe others think the world would be better without them | 25 |

(Salekin, Leistico, Schrum, & Mullins, 2005)

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VITA

Michael Knoll was born and raised in the Twin Cities area of Minnesota. He graduated from St. Olaf College in Northfield, Minnesota with honors in 2005 with a Bachelor of Arts in Psychology with a Management Studies Concentration. After working as a Senior Business Analyst for Target Corporation from 2005 to 2009, Knoll attended the University of Minnesota, where he received a Master of Arts in Counseling and Student Personnel Psychology in 2011.

While attending Loyola University Chicago from 2011 to 2015, Knoll served the Counseling Psychology Department as Clinical Training Assistant and in several other capacities, including as Secretary of the Doctoral Advisory Committee. He also completed clinical practica working with adolescents at a private psychiatric hospital and providing psychological evaluations in service of a county court system in the Chicago area. Knoll completed his pre-doctoral internship with the Florida Department of Corrections, after which he returned to the Midwest in order to continue his clinical work in similar settings.

